

[0036] In addition to cameras, electronic devices are known to include a camera flash module that provides additional light during an image capturing event. Traditional accessory devices include a power supply in an extension, or hump, on the back wall. As a result, at least some of the light emitted from the camera flash module can reflect off of the extension and into the camera, causing the resultant image generated by the camera to include a color that resembles the color of the accessory device. However, for accessory devices described herein, light from a camera flash reflected back toward the camera is not intermittently reflected off of the accessory device, as the power supply (and associated extension that carries the power supply) is positioned on the cover away from the camera.

[0037] In another example, electronic devices are known to include an inductive charging coil(s) used for wireless charging of a battery of the electronic device. A traditional accessory device with a power supply on the back wall of the accessory device can block the transmission of inductive energy to the inductive charging coil(s). However, with the power supply located on the cover, accessory devices described herein include a power supply that is laterally displaced from the inductive charging coil(s) in the electronic device. As a result, accessory device described herein will not impede transmission of inductive energy from an external charging device to the electronic device even when the electronic device is positioned in the case.

[0038] These and other embodiments are discussed below with reference to FIGS. 1-21. However, those skilled in the art will readily appreciate that the detailed description given herein with respect to these Figures is for explanatory purposes only and should not be construed as limiting.

[0039] FIG. 1 illustrates a front isometric view of an embodiment of an accessory device 100, showing the accessory device 100 in an open position, in accordance with some described embodiments. The accessory device 100 (representative of other accessory devices described herein) is designed for use with an electronic device (not shown in FIG. 1), such as portable electronic devices including mobile wireless communication devices (smartphones) and tablet computing devices, as non-limiting examples. Also, the accessory device 100 may be referred to as a protective case or a folio, as non-limiting examples. The accessory device 100 may be formed from materials such as silicone, leather, synthetic materials, plastic, microfiber, or a combination thereof. When the accessory device 100 includes leather, the accessory device 100 may include two or more outer layers formed from leather that define an exterior of the accessory device 100.

[0040] As shown, the accessory device 100 includes a receptacle 102 and a cover 104 connected to the receptacle 102 by a hinge 106. The hinge 106 allows relative movement between the receptacle 102 and the cover 104. As an example, the cover 104 can pivot relative to the receptacle 102, as indicated by the two-sided arrow. Also, the cover 104 is designed to rotate, using the hinge 106, onto the receptacle 102, including multiple sidewalls (described below) of the receptacle 102. However, as shown in FIG. 1, the cover 104 is rotated away from the receptacle 102 and is positioned laterally respect to the receptacle 102. In this detailed description and in the claims, the phrase “positioned laterally” or “laterally displaced” refers to the cover 104 folded away 180 degrees (or approximately 180 degrees) from the receptacle 102 such that the cover 104 and the receptacle lie

on the same plane (such as the X-Y plane in Cartesian coordinates). In some instances, the receptacle 102 may be referred to as a first portion or a case, and the cover 104 may be referred to as a second portion, a flap, or a front flap.

[0041] The receptacle 102 provides a region in which the electronic device is positioned. The receptacle 102 may include a wall 108 (also referred to as a bottom wall or back wall) as well as multiple sidewalls, including a sidewall 112a, a sidewall 112b, a sidewall 112c, and a sidewall 112d. The multiple sidewalls extend from the wall 108 to form space, region, or internal volume in which the electronic device is positioned. In this regard, the internal volume includes a size and shape that corresponds to the size and shape of the electronic device. The receptacle 102 includes additional features to accommodate an electronic device. For example, the wall 108 includes an opening 114 that provides an unobstructed pathway for a camera(s) and a camera flash (not shown in FIG. 1) of an electronic device. The sidewall 112c includes a cut out region 116 that provides an unobstructed pathway for a microphone(s), speaker(s), and a data port (not shown in FIG. 1) of the electronic device. The sidewall 112d may include a button 118 that can be depressed in order to provide a corresponding depression of a button (not shown in FIG. 1) of the electronic device. Although the button 118 is in a particular location on the sidewall 112d, the button 118 can be positioned in other locations of the sidewall 112d or on other sidewalls.

[0042] The accessory device 100 may include a power supply 122 (shown as dotted lines) located on, and carried by, the cover 104. The power supply 122, also referred to as a battery, rechargeable battery rechargeable power supply, is designed to store energy that can be used to charge a battery of an electronic device positioned in the receptacle 102. The cover 104 may include a compartment 124 that defines an enclosure in which the power supply 122 is located. In order to place an electronic device in electrical communication with the power supply 122, the accessory device 100 may include a flexible circuit 126 (shown as dotted lines) that electrically connects to the power supply 122. As shown, the flexible circuit 126 is embedded in the cover 104, the hinge 106, and the receptacle 102. The receptacle 102 may include contacts 128 located on the wall 108. When an electronic device is positioned in the receptacle 102, the contacts 128 can engage and electrically couple to respective contacts (not shown in FIG. 1) located on the electronic device. While the contacts 128 represent multiple electrical contacts, in some embodiments (not shown in FIG. 1), the accessory device 100 includes a single electrical contact. Although not shown, the accessory device 100 may include additional circuitry, indicators (lights), and other features that operate in conjunction with the power supply 122.

[0043] The cover 104 may further include a sleeve 132 designed to carry personal items for a user, such as a driver's license or credit cards, as non-limiting examples. Accordingly, the accessory device 100 may be used as a wallet. Generally, the sleeve 132 defines a surface 134a that engages the sidewalls of the receptacle 102, while an additional surface (shown below) of the cover 104 receives the compartment 124.

[0044] FIG. 2 illustrates a front isometric view of the accessory device 100 shown in FIG. 1, showing the accessory device 100 in a closed position. To transition from the open position to the closed position, the cover 104 is rotated, using the hinge 106, and positioned on the receptacle 102,